LISTING OF CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-46 (Cancelled)

47. (New) A nonpathogenic bacterium of the genus *Bifidobacterium*, comprising a vector that comprises:

a) a *Bifidobacterium* histone-like DNA binding protein (HU protein) promoter, a DNA sequence downstream of the promoter that encodes i) a protein with anti-tumor activity or ii) a protein that converts a precursor of an antitumor substance into an antitumor substance, and a HU protein terminator downstream of the DNA sequence; and

b) a selective marker selected from the group consisting of antibiotic resistance markers, nutritional requirement markers, and medium selection markers.

48. (New) The bacterium of claim 47, wherein the vector autonomously replicates in the bacterium.

49. (New) The bacterium of claim 47, wherein the vector is integrated in the genomic DNA of the bacterium.

50. (New) The bacterium of claim 47, wherein the vector is an *E. coli-Bifidobacterium* shuttle vector.

51. (New) The bacterium of claim 47, wherein the HU protein promoter and terminator are a *Bifidobacterium longum* promoter and terminator.

52. (New) The bacterium of claim 51, wherein the HU protein promoter and terminator are the HU protein promoter and terminator depicted in SEQ ID NO:1.

53. (New) The bacterium of claim 52, wherein the HU protein promoter has the DNA sequence of nucleotides 1-192 of SEQ ID NO:1.

54. (New) The bacterium of claim 52, wherein the HU protein terminator has the DNA sequence of nucleotides 472-600 of SEQ ID NO:1.

55. (New) The bacterium of claim 53, wherein the HU protein terminator has the DNA sequence of nucleotides 472-600 of SEQ ID NO:1.

56. (New) The bacterium of claim 47, wherein the vector is pBLES100-S-eCD.

57. (New) The bacterium of claim 47, wherein the bacterium is *Bifidobacterium longum* 105A/pBLES100-S-eCD (accession no FERM BP-7274).

58. (New) The bacterium of claim 47, wherein the bacterium is a *Bifidobacterium adolescentis*, *Bifidobacterium longum*, *Bifidobacterium bifidum*, *Bifidobacterium breve*, or a *Bifidobacterium infantis* bacterium.

59. (New) The bacterium of claim 58, wherein the bacterium is a *Bifidobacterium longum* bacterium.

60. (New) The bacterium of claim 47, wherein the DNA sequence encodes a protein that converts a precursor of an antitumor substance into an antitumor substance.

61. (New) The bacterium of claim 60, wherein the protein is cytosine deaminase, nitroreductase, herpes simplex virus type 1 protein thymidine kinase, or β-glucuronidase.

62. (New) The bacterium of claim 61, wherein the protein is a cytosine deaminase.

63. (New) The bacterium of claim 47, wherein the bacterium is a *Bifidobacterium longum* bacterium and wherein the protein that converts a precursor of an antitumor substance into an antitumor substance is a cytosine deaminase.

64. (New) A composition comprising the bacterium of claim 47 and an aqueous medium suitable for administration to a human.

65. (New) A method for treating a solid tumor, comprising administering the bacterium of claim 47 to the solid tumor, wherein the vector of the bacterium comprises a DNA sequence that encodes a protein with antitumor activity, such that the solid tumor is treated.

66. (New) A method for treating a solid tumor, comprising administering the bacterium of claim 47 and a precursor of an antitumor substance to the solid tumor, wherein the vector of the bacterium comprises a DNA sequence that encodes a protein that converts the precursor into an antitumor substance, such that the solid tumor is treated.

67. (New) The method of claim 66, wherein the precursor of an antitumor substance is 5-fluorocytosine and the protein that converts the precursor into an antitumor substance is cytosine deaminase.

68. (New) The method of claim 67, wherein the bacterium is a *Bifidobacterium longum* bacterium.

69. (New) The method of claim 66, wherein the precursor of an antitumor substance is 5-aziridino-2,4-dinitrobenzamide (CB1954) and the protein that converts the precursor into an antitumor substance is nitroreductase.

70. (New) The method of claim 69, wherein the bacterium is a *Bifidobacterium longum* bacterium.

71. (New) The method of claim 66, wherein the precursor of an antitumor substance is a glucuronic acid-conjugated precursor of an antitumor substance and the protein that converts the precursor into an antitumor substance is beta-glucuronidase.

72. (New) The method of claim 71, wherein the bacterium is a *Bifidobacterium longum* bacterium.